


DNA SEQUENCER

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Abstract

PROBLEM TO BE SOLVED: To detect the fluorescence from a fluorescence labelled DNA fragment with high sensitivity.

SOLUTION: Different DNA samples containing four kinds of multiple labelled DNA fragments are respectively charged in the sample charging slot 4 of a migration gel 2 and migration voltage is applied. The DNA samples become migration bands 3 to migrate through the migration gel 2 in a migration direction 6 with the elapse of time to be separated and reach one straight line to be excited by exciting light 10 to emit the fluorescences corresponding to labels. The lights on one straight line 8 are incident on an interferometer 12 by a condensing mechanism 14 and modulated by the interferometer 12 to be detected by a unidimensional detector array 16. A signal processing part 18 obtains fluorescence spectra at the respective positions on one straight line 8 of the migration gel 2 to discriminate the kinds of the terminal bases of the DNA fragments migrated at the respective positions and joins the results in a time axis direction to determine the base sequences of the DNA samples migrated along respective migration lanes.

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